

REMARKS

Claim 11 is amended. Claims 1-10, 65-68, 71-72, and 75-80 are cancelled. Claims 11-20, 69-70, 73-74, 81, 83-84 and 86 are pending in the application.

Claims 1-10, 65-68, 71-72 and 75-80 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of Chu U.S. Patent No. 5,908,320; Kuehne U.S. Patent No. 6,372,605; Kim U.S. Patent No. 6,362,109; and Fayfield U.S. Patent No. 6,065,481. Without admission as to the propriety of the Examiner's rejection claims 1-10, 65-68, 71-72, and 75-80 are cancelled. Such claims are cancelled without prejudice in order to limit the issues in the event of an appeal. Applicant preserves the right to reintroduce the subject matter of the cancelled claims in this or a continuing application.

Pending claims 11-20, 69-70, 73-74, 81, 83-84, and 86 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of Chu, Kuehne and Fayfield. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 11-20, 69-70, 73-74, 81, 83-84, and 86 are allowable over the cited combinations of Chu, Kuehne and Fayfield for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every limitations in any of those claims.

Independent claim 11 recites an etchant gas composition consisting essentially of a carrier gas, CF₄, CH₂F₂, and at least one of C₄F₆ and C₅F₈, where the etchant gas

composition is selective to both undoped SiO_2 and Si_3N_4 relative to doped SiO_2 . Claim 11 is amended to more clearly recite etchant selectivity within the body of the claim. Chu discloses methods for etching borophosphosilicate glass (BPSG) with high BPSG: TiSi_2 selectivity utilizing an etchant gas which includes Ne, CHF_3 , and one or more of CO , C_4F_8 , CO_2 , CH_2F_2 or hydrofluorocarbons (HFC) (column 6, lines 44-56). Chu does not disclose or suggest that claim 11 recited CF_4 . Nor does Chu disclose or suggest the recited etchant gas composition being selective to both undoped SiO_2 and Si_3N_4 relative to doped silicon dioxide.

Neither Kuehne nor Fayfield discloses or suggests the claim 11 recited etchant gas composition containing CF_4 . Accordingly, as combined with Chu, Kuehne and Fayfield fail to contribute towards suggesting the claim 11 recited etchant gas composition consisting essentially of a carrier gas, CH_2F_2 , CF_4 , and at least one of C_4F_6 and C_5F_8 . Further, Kuehne specifically indicates a goal of providing an etch chemistry having increased oxide to nitride etch rate selectivity and Fayfield indicates specifically cleaning and/or etching materials such as silicon dioxide. Accordingly, the combination of Chu, Kuehne and Fayfield fail to provide a basis for a reasonable expectation of achieving the claim 11 recited etchant gas composition which is selective to both undoped SiO_2 and Si_3N_4 relative to doped SiO_2 . Accordingly, independent claim 11 is not rendered obvious by the cited combinations of Chu, Kuehne and Fayfield and is allowable over these references.

Dependent claims 14-15, 69, 73, 81 and 83 are allowable over Chu, Kuehne and Fayfield for at least reason that they depend from allowable base claim 11.

Independent claim 16 recites an etchant gas composition consisting essentially of a carrier gas, CH_2F_2 , CHF_3 , CF_4 , and at least one of C_4F_6 at C_5F_8 . Independent claim 6 is

allowable over the cited combinations of Chu, Kuehne and Fayfield for at least reasons similar to those discussed above with respect to independent claim 11.

Dependent claims 19-20, 70, 74, 84 and 86 are allowable over Chu, Kuehne and Fayfield for at least reason that they depend from allowable base claim 16.

For the reasons discussed above, pending claims 11-20, 69-70, 73-74, 81, 83-84 and 86 are allowable. Accordingly, Applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

Dated:

March 2, 2005

By:

Jennifer J. Taylor
Jennifer J. Taylor, Ph.D.
Reg. No. 48,711